



### ***Twin Cities Campus***

## **Health Services Research, Policy, and Administration Ph.D.**

*School of Public Health - Adm*

### **School of Public Health**

Link to a [list of faculty](#) for this program.

#### **Contact Information:**

School of Public Health, MMC 819, A395 Mayo Memorial Building, 420 Delaware Street, Minneapolis, MN 55455 (612-626-3500 OR 1-800-774-8636)

Email: [sph-ask@umn.edu](mailto:sph-ask@umn.edu)

Website: <http://www.sph.umn.edu>

- Program Type: Doctorate
- Requirements for this program are current for Fall 2019
- Length of program in credits: 71 to 88
- This program does not require summer semesters for timely completion.
- Degree: Doctor of Philosophy

Along with the program-specific requirements listed below, please read the [General Information](#) section of the catalog website for requirements that apply to all major fields.

The health services research, policy, and administration doctoral program offers a multidisciplinary examination of the social, political, and economic forces that affect the organization, financing, and delivery of health care. Graduates will be in a position to apply learned research skills to influence policy and positively impact health care systems in various sectors, including universities, government agencies, think tanks, health insurance providers, managed care organizations, and consulting firms.

## **Program Delivery**

This program is available:

- via classroom (the majority of instruction is face-to-face)

## **Prerequisites for Admission**

The preferred undergraduate GPA for admittance to the program is 3.00.

Other requirements to be completed before admission:

The PhD program requires prerequisites in calculus and statistics. Applicants who have not completed the prerequisites, but are otherwise qualified for admission, are required to take relevant courses at the University or another accredited institution before beginning the program.

#### **Special Application Requirements:**

Students who wish to pursue the Health Policy and Analysis concentration area must complete PubH 6724 or PubH 6556 either before enrollment by the end of the first year of the doctoral program.

See [www.sph.umn.edu](http://www.sph.umn.edu) for additional admission requirements.

Applicants must submit their test score(s) from the following:

- GRE
  - General Test - Verbal Reasoning: 153
  - General Test - Quantitative Reasoning: 144
  - General Test - Analytical Writing: 3.5

International applicants must submit score(s) from one of the following tests:

- TOEFL
  - Internet Based - Total Score: 100
  - Paper Based - Total Score: 600
- IELTS
  - Total Score: 7
- MELAB
  - Final score: 80

The preferred English language test is Test of English as Foreign Language



Key to [test abbreviations](#)(GRE, TOEFL, IELTS, MELAB).

For an online application or for more information about graduate education admissions, see the [General Information](#) section of the catalog website.

## Program Requirements

47 to 64 credits are required in the major.

24 thesis credits are required.

This program may be completed with a minor.

Use of 4xxx courses towards program requirements is not permitted.

A minimum GPA of 3.00 is required for students to remain in good standing.

At least 4 semesters must be completed before filing a Degree Program Form.

All coursework must be completed A-F.

### Core Coursework (25 credits)

Courses must be completed with a minimum B- grade.

Take all of the following core courses:

- [PUBH 6250](#) - Foundations of Public Health (2.0 cr)
- [PUBH 6742](#) - Ethics in Public Health: Research and Policy (1.0 cr)
- [PUBH 6832](#) - Economics of the Health Care System (3.0 cr)
- [PUBH 6855](#) - Medical Sociology (3.0 cr)
- [PUBH 8341](#) - Advanced Epidemiologic Methods: Concepts (3.0 cr)
- [PUBH 8801](#) - Health Services Policy Analysis: Theory (1.0 cr)
- [PUBH 8810](#) - Research Studies in Health Care (3.0 cr)
- [PUBH 8811](#) - Research Methods in Health Care (3.0 cr)
- [PUBH 8830](#) - Writing for Research (2.0 cr)
- [PUBH 8831](#) - Writing for Research (2.0 cr)

### Econometrics and Biostatistics Requirement (8 credits)

Select APEC 8211 and 8212 or PUBH 7401 and 7402 in consultation with the advisor.

#### Econometrics

- [APEC 8211](#) - Econometric Analysis I (2.0 cr)
- [APEC 8212](#) - Econometric Analysis II (2.0 cr)

#### or Biostatistics

- [PUBH 7401](#) - Fundamentals of Biostatistical Inference (4.0 cr)
- [PUBH 7402](#) - Biostatistics Modeling and Methods (4.0 cr)

### Thesis Credits (24 credits)

Take at least 24 doctoral thesis credits.

- [PUBH 8888](#) - Thesis Credit: Doctoral (1.0 - 24.0 cr)

### Concentration Areas

#### Multidisciplinary Social Sciences (20-22 credits)

The Multidisciplinary Social Science concentration area is designed for doctoral students who want a broad introduction to analytic perspectives from economics, sociology, and political science, along with statistics and econometrics.

#### Required Coursework (6 credits)

Take the following courses:

- [APEC 5151](#) - Applied Microeconomics: Firm and Household (3.0 cr)
- [PUBH 8805](#) - Sociological Theory in Health Services Research (3.0 cr)

#### Required Theory Coursework (2-4 credits)

Select one of the following courses in consultation with the advisor:

- [APEC 8203](#) - Applied Welfare Economics and Public Policy (3.0 cr)
- [PUBH 6717](#) - Decision Analysis for Health Care (2.0 cr)
- [PUBH 6809](#) - Advanced Methods in Health Decision Science (3.0 cr)
- [PUBH 6862](#) - Cost-Effectiveness Analysis in Health Care (3.0 cr)
- [PUBH 8804](#) - Advanced Quantitative Methods Seminar (3.0 cr)
- [PUBH 8821](#) - Health Economics II (3.0 cr)
- [SOC 8701](#) - Sociological Theory (4.0 cr)
- [SOC 8721](#) - Social Psychology: Micro-Sociological Approaches to Inequalities and Identities (3.0 cr)



### Electives (12 credits)

Select electives from the following list in consultation with the advisor:

- APEC 8202 - Mathematical Optimization in Applied Economics (3.0 cr)
- APEC 8206 - Dynamic Optimization: Applications in Economics and Management (3.0 cr)
- ECON 8181 - Advanced Topics in Microeconomics (2.0 cr)
- ECON 8182 - Advanced Topics in Microeconomics (2.0 cr)
- ECON 8205 - Applied Econometrics (2.0 cr)
- ECON 8206 - Applied Econometrics (2.0 cr)
- ECON 8207 - Applied Econometrics (2.0 cr)
- ECON 8208 - Applied Econometrics (2.0 cr)
- IDSC 8511 - Conceptual Topics and Research Methods in Information and Decision Sciences (3.0 cr)
- IDSC 8721 - Behavioral Decision Theory (3.0 cr)
- MGMT 8302 - Seminar in Organizational Theory (4.0 cr)
- PA 8302 - Applied Policy Analysis (4.0 cr)
- PUBH 6803 - Conducting a Systematic Literature Review (3.0 cr)
- PUBH 6810 - Survey Research Methods (3.0 cr)
- PUBH 6811 ~~(Inactive)~~(2.0 cr)
- PUBH 6845 - Using Demographic Data for Policy Analysis (3.0 cr)
- PUBH 6863 - Understanding Health Care Quality (2.0 cr)
- PUBH 7420 - Clinical Trials: Design, Implementation, and Analysis (3.0 cr)
- PUBH 7440 - Introduction to Bayesian Analysis (3.0 cr)
- PUBH 7450 - Survival Analysis (3.0 cr)
- PUBH 8802 - Health Services Policy Analysis: Applications (2.0 cr)
- PUBH 8813 - Measurement of Health-Related Social Factors (3.0 cr)
- SOC 8101 - Sociology of Law (3.0 cr)
- SOC 8211 - The Sociology of Race & Racialization (3.0 cr)
- SOC 8290 - Topics in Race, Class, Gender and other forms of Durable Inequality (3.0 cr)
- SOC 8311 - Political Sociology (3.0 cr)
- SOC 8390 - Topics in Political Sociology (3.0 cr)
- SOC 8412 - Social Network Analysis: Theory and Methods (3.0 cr)
- SOC 8501 - Sociology of the Family (3.0 cr)
- SOC 8551 - Life Course Inequality & Health (3.0 cr)
- SOC 8731 - Sociology of Knowledge (3.0 cr)
- SOC 8735 - Sociology of Culture (3.0 cr)

-OR-

### Sociology of Health and Illness (18 credits)

The Sociology of Health and Illness concentration area emphasizes fundamental issues in medical sociology, such as social stratification, the social construction of health and illness, population dynamics and demographic forces.

#### Required Coursework (6 credits)

Select at least 6 credits from the following list in consultation with the advisor:

- MGMT 8302 - Seminar in Organizational Theory (4.0 cr)
- or PUBH 8805 - Sociological Theory in Health Services Research (3.0 cr)
- or SOC 8211 - The Sociology of Race & Racialization (3.0 cr)
- or SOC 8701 - Sociological Theory (4.0 cr)
- or SOC 8731 - Sociology of Knowledge (3.0 cr)

#### Electives (12 credits)

##### Specialization Coursework (9 credits)

Select at least 9 credits from the following list in consultation with the advisor:

- IDSC 8721 - Behavioral Decision Theory (3.0 cr)
- SOC 8101 - Sociology of Law (3.0 cr)
- SOC 8290 - Topics in Race, Class, Gender and other forms of Durable Inequality (3.0 cr)
- SOC 8311 - Political Sociology (3.0 cr)
- SOC 8390 - Topics in Political Sociology (3.0 cr)
- SOC 8412 - Social Network Analysis: Theory and Methods (3.0 cr)
- SOC 8501 - Sociology of the Family (3.0 cr)
- SOC 8551 - Life Course Inequality & Health (3.0 cr)
- SOC 8735 - Sociology of Culture (3.0 cr)

##### Advanced Methodology Coursework (3 credits)

Select at least 3 credits from the following list in consultation with the advisor:

- EPSY 5247 - Qualitative Methods in Educational Psychology (3.0 cr)
- or POL 8126 - Qualitative Methods (3.0 cr)
- or PSY 8881 - Seminar: Quantitative and Psychometric Methods (3.0 cr)
- or PUBH 6811 ~~(Inactive)~~(2.0 cr)
- or PUBH 6845 - Using Demographic Data for Policy Analysis (3.0 cr)



or [PUBH 8804](#) - Advanced Quantitative Methods Seminar (3.0 cr)  
or [PUBH 8813](#) - Measurement of Health-Related Social Factors (3.0 cr)  
or [SOC 8412](#) - Social Network Analysis: Theory and Methods (3.0 cr)

-OR-

#### Health Decision Science (23 credits)

The Health Decision Science concentration area consists of a collection of quantitative methods used to evaluate decision making under uncertainty. There are many areas relevant to medical decision-making including decision analysis, cost-effectiveness analysis, disease simulation modeling, infectious disease modeling, quality-of-life assessment, utility elicitation, health outcomes assessment, and pharmacoeconomics.

##### Required Coursework (11 credits)

Take the following courses:

[PUBH 6717](#) - Decision Analysis for Health Care (2.0 cr)  
[PUBH 6809](#) - Advanced Methods in Health Decision Science (3.0 cr)  
[PUBH 6862](#) - Cost-Effectiveness Analysis in Health Care (3.0 cr)

Select one of the following courses in consultation with the advisor:

[IDSC 8511](#) - Conceptual Topics and Research Methods in Information and Decision Sciences (3.0 cr)  
or [IDSC 8721](#) - Behavioral Decision Theory (3.0 cr)

##### Electives (12 credits)

Select electives from the following list in consultation with the advisor. If PubH 7401, 7402, 6809 or 6862 are completed as part of the required coursework, students will need to choose different course credits for electives.

[IE 5080](#) - Topics in Industrial Engineering (1.0 - 4.0 cr)  
[IE 5111](#) - Systems Engineering I (2.0 cr)  
[IE 5113](#) - Systems Engineering II (4.0 cr)  
[IE 5441](#) - Financial Decision Making (4.0 cr)  
[IE 5511](#) - Human Factors and Work Analysis (4.0 cr)  
[IE 5522](#) - Quality Engineering and Reliability (4.0 cr)  
[IE 5524](#) - Process Transformation through Lean Tools (2.0 cr)  
[IE 5531](#) - Engineering Optimization I (4.0 cr)  
[IE 5532](#) - Stochastic Models (4.0 cr)  
[IE 5541](#) - Project Management (4.0 cr)  
[IE 5545](#) - Decision Analysis (4.0 cr)  
[IE 5551](#) - Production and Inventory Systems (4.0 cr)  
[IE 5553](#) - Simulation (4.0 cr)  
[IE 5561](#) - Analytics and Data-Driven Decision Making (4.0 cr)  
[IE 5773](#) - Practice-focused Seminar (1.0 cr)  
[PUBH 6803](#) - Conducting a Systematic Literature Review (3.0 cr)  
[PUBH 6804](#) - Mental Health Policy (2.0 cr)  
[PUBH 6805](#) - Introduction to Project Management for Health Professionals (2.0 cr)  
[PUBH 6806](#) - Principles of Public Health Research (2.0 cr)  
[PUBH 6810](#) - Survey Research Methods (3.0 cr)  
[PUBH 6813](#) - Managing Electronic Health Information (2.0 cr)  
[PUBH 6815](#) - Community-based Participatory Research (2.0 cr)  
[PUBH 6845](#) - Using Demographic Data for Policy Analysis (3.0 cr)  
[PUBH 6852](#) - Program Evaluation in Health and Mental Health Settings (2.0 cr)  
[PUBH 6863](#) - Understanding Health Care Quality (2.0 cr)  
[PUBH 6864](#) - Conducting Health Outcomes Research (3.0 cr)  
[PUBH 7401](#) - Fundamentals of Biostatistical Inference (4.0 cr)  
[PUBH 7402](#) - Biostatistics Modeling and Methods (4.0 cr)  
[PUBH 7405](#) - Biostatistical Inference I (4.0 cr)  
[PUBH 7406](#) - Biostatistical Inference II (3.0 cr)  
[PUBH 7415](#) - Introduction to Clinical Trials (3.0 cr)  
[PUBH 7420](#) - Clinical Trials: Design, Implementation, and Analysis (3.0 cr)  
[PUBH 7430](#) - Statistical Methods for Correlated Data (3.0 cr)  
[PUBH 7440](#) - Introduction to Bayesian Analysis (3.0 cr)  
[PUBH 7445](#) - Statistics for Human Genetics and Molecular Biology (3.0 cr)  
[PUBH 7450](#) - Survival Analysis (3.0 cr)  
[PUBH 7461](#) - Exploring and Visualizing Data in R (2.0 cr)  
[PUBH 7462](#) - Advanced Programming and Data Analysis in R (2.0 cr)  
[PUBH 7465](#) - Biostatistics Consulting (2.0 cr)  
[PUBH 7470](#) - Study Designs in Biomedical Research (3.0 cr)  
[PUBH 7475](#) - Statistical Learning and Data Mining (3.0 cr)  
[PUBH 7485](#) - Methods for Causal Inference (3.0 cr)

-OR-

#### Clinical Outcomes Research (31 credits)



The Clinical Outcomes Research concentration area is designed to train health services researchers who wish to study clinical care, costs and outcomes. Their research may be conducted using observational (quasi-experimental) studies, randomized clinical trials or analyses of secondary data sets, including administrative data.

**Required Coursework (19 credits)**

Take the following courses:

- [PUBH 6810](#) - Survey Research Methods (3.0 cr)
- [PUBH 6864](#) - Conducting Health Outcomes Research (3.0 cr)
- [PUBH 7430](#) - Statistical Methods for Correlated Data (3.0 cr)
- [PUBH 7450](#) - Survival Analysis (3.0 cr)
- [PUBH 8342](#) - Advanced Epidemiologic Methods: Applications (3.0 cr)
- [PUBH 8343](#) - Synthesis and Application of Methods in Epidemiologic Research (3.0 cr)

**Electives (12 credits)**

Select at least 12 credits from the following list in consultation with the advisor:

- [PUBH 6717](#) - Decision Analysis for Health Care (2.0 cr)
- [PUBH 6803](#) - Conducting a Systematic Literature Review (3.0 cr)
- [PUBH 6862](#) - Cost-Effectiveness Analysis in Health Care (3.0 cr)
- [PUBH 6863](#) - Understanding Health Care Quality (2.0 cr)
- [PUBH 8813](#) - Measurement of Health-Related Social Factors (3.0 cr)
- [PUBH 6576](#) - Understanding Clinical Quality Using Administrative Data (2.0 cr)

-OR-

**Health Policy and Analysis (14 credits)**

The Health Policy concentration area prepares students for careers in research, teaching, and public service in academic, governmental and public policy settings. The focus of this area includes multi-disciplinary training in the social sciences; application of quantitative research methods; rigorous writing and communication skill-based training.

**Required Coursework (2 credits)**

Take the following course:

- [PUBH 8802](#) - Health Services Policy Analysis: Applications (2.0 cr)

**Electives (12 credits)**

Select at least 12 credits from the following list in consultation with the advisor. PUBH 6845 and 8804 are strongly recommended.

- [PUBH 6717](#) - Decision Analysis for Health Care (2.0 cr)
- [PUBH 6810](#) - Survey Research Methods (3.0 cr)
- [PUBH 6811](#) ~~(Inactive)~~ (2.0 cr)
- [PUBH 6845](#) - Using Demographic Data for Policy Analysis (3.0 cr)
- [PUBH 6862](#) - Cost-Effectiveness Analysis in Health Care (3.0 cr)
- [PUBH 8804](#) - Advanced Quantitative Methods Seminar (3.0 cr)
- [PUBH 8813](#) - Measurement of Health-Related Social Factors (3.0 cr)

-OR-

**Health Economics (23 credits)**

Health Economics is to train health economists who will rival PhDs from the top economics departments in competing for jobs in universities and research institutions. The curriculum includes a broad menu of health economics courses in addition to the multidisciplinary core courses. A minimum 78 credits is required for this emphasis area.

**Required Course (3 credits)**

Take the following course:

- [PUBH 8821](#) - Health Economics II (3.0 cr)

**Required Microeconomics Series (8 credits)**

Select four courses from one of the following series, in consultation with the advisor, for a total of 8 credits:

**Applied Microeconomics**

- [APEC 8001](#) - Applied Microeconomic Analysis of Consumer Choice and Consumer Demand (2.0 cr)
- [APEC 8002](#) - Applied Microeconomic Analysis of Production and Choice Under Uncertainty (2.0 cr)
- [APEC 8003](#) - Applied Microeconomic Analysis of Game Theory and Information (2.0 cr)
- [APEC 8004](#) - Applied Microeconomic Analysis of Social Choice and Welfare (2.0 cr)

**or Required Microeconomic Theory Series**

- [ECON 8101](#) - Microeconomic Theory (2.0 cr)
- [ECON 8102](#) - Microeconomic Theory (2.0 cr)
- [ECON 8103](#) - Microeconomic Theory (2.0 cr)
- [ECON 8104](#) - Microeconomic Theory (2.0 cr)

**Electives (12 credits)**

In consultation with academic advisor, students select minimum 12 total credits from the following list. Students are required to select 4-8 credits from the Methods Elective Options section.

**Methods Elective Options (4-8 credits)**

Select at least two courses, in consultation with the advisor, from the options below. Multi-course sequences count as one course, e.g. APEC 8211 must be taken with 8212. ECON 8205, must also include 8206, 8207, and 8208.

- [APEC 8202](#) - Mathematical Optimization in Applied Economics (3.0 cr)
- or [APEC 8206](#) - Dynamic Optimization: Applications in Economics and Management (3.0 cr)





or PA 8302 - Applied Policy Analysis (4.0 cr)  
or PUBH 6862 - Cost-Effectiveness Analysis in Health Care (3.0 cr)  
or PUBH 8804 - Advanced Quantitative Methods Seminar (3.0 cr)  
or Take APEC 8211 and 8212 if this elective series is selected.

APEC 8211 - Econometric Analysis I (2.0 cr)

APEC 8212 - Econometric Analysis II (2.0 cr)

or Select ECON 8205, 8206, 8207 and 8208 if this elective series is selected.

ECON 8205 - Applied Econometrics (2.0 cr)

ECON 8206 - Applied Econometrics (2.0 cr)

ECON 8207 - Applied Econometrics (2.0 cr)

ECON 8208 - Applied Econometrics (2.0 cr)

or PubH 7401 and PubH 7402 is a course series option, if not applied to a core requirement. The two courses cannot be taken with applied econometrics.

PUBH 7401 - Fundamentals of Biostatistical Inference (4.0 cr)

PUBH 7402 - Biostatistics Modeling and Methods (4.0 cr)

**or Other Electives (4-8 credits)**

Select 4-8 elective credits from the following, in consultation with the advisor, to meet the 12-credit elective requirement.

APEC 8341 - Applied Public Finance (3.0 cr)

APEC 8501 - Labor Economics I (2.0 cr)

APEC 8502 - Labor Economics II (2.0 cr)

APEC 8602 - Economics of the Environment (3.0 cr)

APEC 8701 - Trade and Development I (2.0 cr)

APEC 8703 - Trade and Development III (2.0 cr)

APEC 8803 - Marketing Economics (3.0 cr)

ECON 8103 - Microeconomic Theory (2.0 cr)

ECON 8104 - Microeconomic Theory (2.0 cr)

ECON 8107 - Macroeconomic Theory (2.0 cr)

ECON 8108 - Macroeconomic Theory (2.0 cr)

ECON 8117 - Noncooperative Game Theory (2.0 cr)

ECON 8118 - Noncooperative Game Theory (2.0 cr)

ECON 8182 - Advanced Topics in Microeconomics (2.0 cr)

ECON 8186 - Advanced Topics in Macroeconomics (2.0 cr)

ECON 8192 - Workshop in Mathematical Economics (1.0 cr)

ECON 8207 - Applied Econometrics (2.0 cr)

ECON 8208 - Applied Econometrics (2.0 cr)

ECON 8312 - Economic Growth and Development (2.0 cr)

ECON 8391 - Workshop in Economic Growth and Development (1.0 cr)

ECON 8392 - Workshop in Economic Growth and Development (1.0 cr)

ECON 8401 - International Trade and Payments Theory (2.0 cr)

ECON 8402 - International Trade and Payments Theory (2.0 cr)

ECON 8403 - International Trade and Payments Theory (2.0 cr)

ECON 8491 - Workshop in Trade and Development (1.0 cr)

ECON 8492 - Workshop in Trade and Development (1.0 - 3.0 cr)

ECON 8501 - Wages and Employment (2.0 cr)

ECON 8502 - Wages and Employment (2.0 cr)

ECON 8503 - Wages and Employment (2.0 cr)

ECON 8581 - Advanced Topics in Labor Economics (2.0 cr)

ECON 8582 - Advanced Topics in Labor Economics (2.0 cr)

ECON 8601 - Industrial Organization and Government Regulation (2.0 cr)

ECON 8602 - Industrial Organization and Government Regulation (2.0 cr)

ECON 8603 - Industrial Organization and Government Regulation (2.0 cr)

ECON 8691 - Workshop in Applied Microeconomics (1.0 cr)

ECON 8692 - Workshop in Applied Microeconomics (1.0 cr)

ECON 8702 - Monetary Economics (2.0 cr)

ECON 8703 - Monetary Economics (2.0 cr)

ECON 8704 - Financial Economics (2.0 cr)

ECON 8705 - Financial Economics (2.0 cr)

ECON 8791 - Workshop in Macroeconomics (1.0 cr)

ECON 8792 - Workshop in Macroeconomics (1.0 cr)

ECON 8801 - Public Economics (2.0 cr)

ECON 8802 - Public Economics (2.0 cr)

ECON 8803 - Public Economics (2.0 cr)

PUBH 6862 - Cost-Effectiveness Analysis in Health Care (3.0 cr)

**Joint- or Dual-degree Coursework:** JD/PhD-Health Services Research Policy & Administration Student may take a total of 12 credits in common among the academic programs.